Water Governance in Northern Saskatchewan: Opportunities and Challenges

Nadine Lemoine and Robert J. Patrick
Department of Geography and Planning
University of Saskatchewan

Résumé
Cette étude vise à développer une politique des eaux basée sur les lieux pour le nord de la Saskatchewan, une région des resources naturel et habitée principalement par des autochtones. L'article explore les besoins, ou les éléments requis, pour une politique de la gouvernance des eaux du gouvernement fédéral et provincial qui pourrait être gouvernée principalement par des autochtones à l'échelle régionale. L'on définit la gouvernance des eaux en tant que processus qui guide les décisions, et ceux et celles qui prennent les décisions, concernant la planification et les politiques de la gestion des bassins versants. L'étude qualitative, basée sur des interviews d'intervenant clés, identifie six aspects nécessaires pour une gestion efficace de la gestion des bassins versants dans le nord de la Saskatchewan.

Ces aspects nécessaires inclus : consultations avec les résidents autochtones, participation du public, financement nécessaires pour la gestion des eaux, supervision de la qualité des eaux, un rôle de dirigeant de la part de la province, et accès à l'information. Sur la base des résultats, trois thèmes émergent concernant la gestion efficace des eaux dans le nord de la Saskatchewan: amélioration des communications, la nécessité de bâtir les capacités financières et techniques, et un rôle de dirigeant de la part de la province.

On a également identifié l'importance du soutien d'un conseil des bassins versants du nord de la Saskatchewan composé de membres autochtones. Le sujet de la gouvernance des eaux et de la gestion des bassins versants continuent de gagner de l'attention au sein de la littérature concernant la gestion des eaux en milieu urbain. Il est maintenant temps de mettre l'accent en milieu rural et les régions nord du Canada afin de tenir compte de la gestion des bassins versants avec le développement des ressources naturel et le support des communautés autochtones du Nord de la Saskatchewan. Ces derniers désirent mieux contrôler leurs terres et les eaux au sein de leur territoire.

Mots clés: gouvernance des eaux, gestions des bassins versants, autochtone, Nord de la Saskatchewan, territoire traditionnel

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Abstract
This paper examines opportunities for a more nuanced, place-based, water governance framework in northern Saskatchewan, a natural resource rich area of Canada occupied predominantly by Aboriginal people. We explore the requirements, or requisites, under which water governance may be re-scaled from the federal and provincial level to a more regional level. Here we define water governance as the process which guides decisions, and who makes decisions, regarding water management, planning and policy. Using key informant interviews, this qualitative study identifies six requisites for effective water governance in northern Saskatchewan. These requisites include: meaningful consultation with Aboriginal residents, public participation and engagement, adequate funding, water quality monitoring, provincial leadership and access to information. Based on these findings, three broad themes emerge surrounding effective water management in northern Saskatchewan: improved communication, financial and technical capacity building, and provincial leadership. Support for a northern watershed council with broad Aboriginal membership was also identified. The subject of water governance continues to gain attention in the global and urban water policy literature. It is timely to extend water governance research into rural and remote regions of Canada to bridge water management complexity in the face of natural resource development and to support those northern Aboriginal communities wanting greater control over land and water use within their traditional territories.

Keywords: water governance, Aboriginal peoples, northern Saskatchewan, traditional territories

Introduction

Effective water governance is increasingly seen as a necessary component of good water management and planning. The topic of water governance continues to gain momentum in the water resources literature, with particular attention to urban regions. This paper explores the subject of water governance in northern Saskatchewan, a region long inhabited by Aboriginal people practicing traditional land management recently conflicted by industrial-scale resource extraction activities. The purpose of this paper is to identify the necessary requirements to support place-based water governance in northern Saskatchewan. Using participant interviews the paper identifies six requirements, or requisites, for effective water governance. In contrast to other parts of Saskatchewan, Northern Saskatchewan is characterized by very low population, dispersed and small settlements, high percentage of Aboriginal population, extractive industry, and legacy mines including uranium. Residents of the region have expressed concern over ineffective water governance as well as concern over the impacts of land use change and climate uncertainty on water quality and availability (Keepers of the Water, 2010). Moreover, many northern residents in Saskatchewan are dependent on the land and water for traditional foods and medicine. Northern communities are wholly dependent on raw water supplies from lakes and rivers for drinking water and are much less reliant on technologies such as advanced water treatment to 'fix' environmental problems.

Under these conditions, effective water governance may prove critical for good water management and planning in the north.

In what follows we provide a definition of water governance followed by context for water governance in northern Saskatchewan. We then provide a description of the study area and research methods. Finally, we introduce six requirements, or requisites, for effective water governance. These six requisites are then synthesized into three broad themes to support a more nuanced and place-based water governance framework in the north.

Water Governance

The concept of water governance has received increased attention in the past decade in both the academic and water policy literature (Bakker & Cook, 2011; Grigg, 2011; Huitema et al. 2009; Norman & Bakker, 2008). Within this literature there is broad consensus on the definition of this concept as well as its relevance to water resource planning and management. Bakker (2007) defines water governance as the decision making process which influences the adoption of operational approaches to initiate "water management". Both "water governance" and "water management" are interrelated but differ in that "governance" refers to the process in which decisions are made and who is involved in this decision rather than the models, principles and information used to make these decisions (Bakker, 2007). Governance also differs from "government" because it involves other social decision makers, including members from industry, business and civil society (Brandes, 2005). It has been argued that issues in watershed planning are as much a problem of "governance" involving multiple networks of organizations as they are a problem of science (Graham & Fortier, 2006).

Bakker (2007: 3) notes that there is an absence of leadership for water governance at a national level, where there has been "a diminished (and in some instances ineffective) federal government focus on water issues over the past two decades". There are a total of 19 federal departments that exert some degree of involvement in the management of water resources; the most important are Environment Canada, Health Canada, Natural Resources Canada, Fisheries and Oceans Canada and Agriculture and Agri-Food Canada (Hurlbert et al, 2009). The spread of responsibility and competing mandates have been described as "jurisdictional fragmentation" … "a patchwork of provincial and federal laws, with inconsistencies and gaps …" (Bakker 2007: 7), in essence, an institutional structure that serves to impede effective management action. This organizational model for water planning and management in Canada has served to institutionalize a 'silo management' approach that promotes compartmentalization and fragmentation of water management and planning across multiple departments and agencies (Bakker 2007: 8).

Water Governance in Saskatchewan

Water governance in Saskatchewan involves a number of jurisdictions including federal and provincial agencies and local governments as well as civil society groups and non-governmental organizations. The federal and provincial governments divide the management of water resources in Saskatchewan across jurisdictional boundaries. The

federal government has sole jurisdiction over First Nations land reserves and the provincial government takes a lead role in the management and regulation of water over all provincial crown-owned land. The main federal authorities include Aboriginal and Northern Development Canada and Health Canada while the main provincial authorities include the Saskatchewan Water Security Agency, the Saskatchewan Ministry of the Environment and the Saskatchewan Ministry of Health and Regional Health Districts. Local and municipal governments play a role in providing safe municipal drinking water to residents and approving local development and land use activities. A variety of other stakeholders also take part in water governance in Saskatchewan, including NGOs, advocacy groups, academics, local citizen groups, industrial actors and other special interest groups (Hurlbert et al 2009). This division of authority over water and the associated jurisdictional conundrum thus created has been termed the 'silo effect' of water management. Other authors have referred to the political landscape of water as 'policy-sheds' (as opposed to natural watersheds).

Water Governance for First Nations

In Canada, the federal government holds jurisdiction over First Nations land reserves and other federal land holdings. This includes jurisdiction over water. For First Nations in Canada, rights to water are poorly defined and have resulted in many disputes over the years stemming from the failure to honor Treaty Rights (Matsui, 2009; Phare, 2010). Modern treaty negotiations, such as those for comprehensive land claim agreements in Canada, have been pursued with heightened expectations of greater equity and a guaranteed land and natural resources base for Aboriginal communities (Hannikainen, 1996). As a sign of inequity in this country, a 2001-2002 Indian and Northern Affairs Canada (INAC) report indicated that almost three quarters of drinking water systems in First Nations communities were at significant risk (INAC, 2002). A decade later, research demonstrates that many First Nation communities continue to lack adequate access to safe drinking water (Simeone, 2010). Instead of an overarching legislation regulating drinking water provision and quality standards, a framework of administrative rules to regulate various elements of water procurement has been created by Aboriginal and Northern Development Canada (AANDC, formerly INAC) and Health Canada (HC). However, these rules are administrative regulations rather than legally binding legislation and no federal agency has yet to implement safe drinking water legislation for First Nations (Peterson, 2002; Phare, 2010).

Study Area and Methods

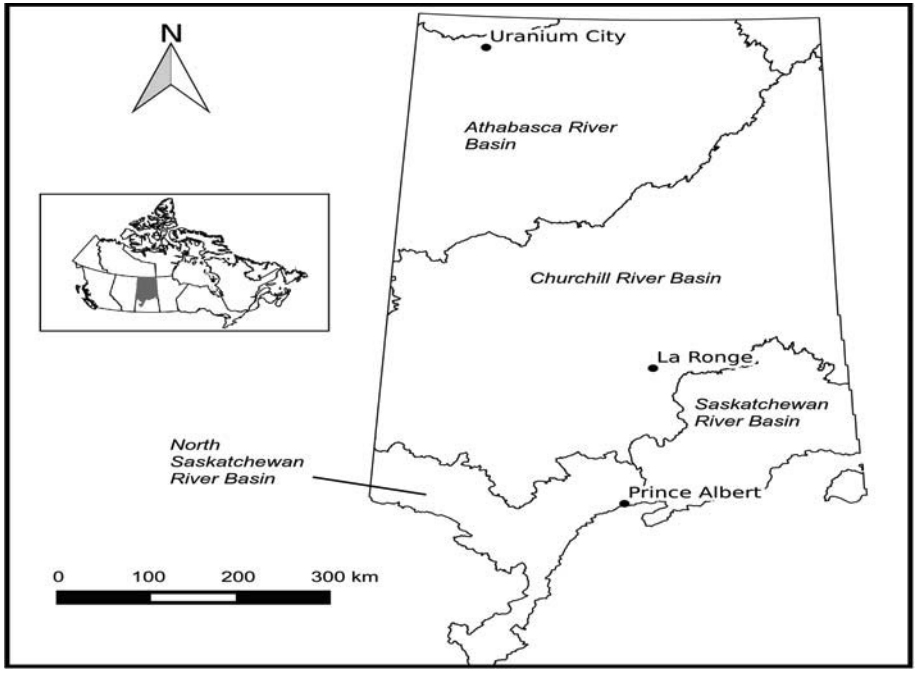
Northern Saskatchewan

In Saskatchewan, the Saskatchewan Water Security Agency (WSA) leads much of the watershed planning and management of the province's water resources with the goal to ensure access to safe drinking water sources and reliable water supplies (Saskatchewan Watershed Authority, 2010). The WSA has developed detailed planning initiatives across the more populated southern portion of the province. These initiatives include the administration and control of infrastructure, inventory maintenance of quality and quantity of ground and surface water, undertaking watershed studies and research,

evaluations of the state of watershed resources in the province, and developing and implementing watershed protection plans through public consultation and in cooperation with local communities (Saskatchewan Watershed Authority, 2010). To date, the same level of attention has not been paid to northern Saskatchewan.

Northern Saskatchewan is home to approximately 42,000 residents, of whom over 80% self-identify as Aboriginal (Government of Saskatchewan, 2011). This large land area has significant implications for travel time, safety and costs. Air travel can be expensive and ground transportation is often slow and risky, particularly over poorly maintained gravel roads and over winter ice roads (Desapriya et al, 2011). Such relative isolation contributes to fewer opportunities for visits from regulatory authorities, enforcement, water monitoring, and safety inspections. Three major basins can be found in northern Saskatchewan: the Athabasca River Basin, the Churchill River Basin and, the Saskatchewan River Basin (see Figure 1). This area is mostly pristine land, where the majority of activity includes First Nation communities, traditional lands used for hunting, fishing and trapping as well as past and present industrial development and tourism.

Figure 1: Major Basins in Northern Saskatchewan



Participants and Institutions

A total of 30 participants participated in this project and agreed to take part in semi-structured interviews (Table 1). The interviews took place between May 2011 and

October 2012 in Saskatchewan. The 'snow-ball' technique was used throughout the interviews to access additional interview participants. Representatives from governmental agencies, First Nations groups and organizations and various non-governmental groups and actors were invited to participate in this research. A semi-structured interview instrument was organized into themes which included: water governance, effectiveness of the current model, governance concerns, and required institutional arrangements to support more effective water governance, water quality and quantity concerns, support for a northern Saskatchewan watershed council, watershed council representation, and participation in a northern Saskatchewan watershed council. The purpose of these questions was to determine the necessary requisites to support a more effective place-base water governance framework in northern Saskatchewan.

Table 1: Research Participants

Sector	Participant Count	Percent
First Nation	10	33%
Governmental	9	30%
Industry	5	17%
Non-Governmental	6	20%
Total	30	100%

Requisites for Effective Water Governance

Six requisites emerged from the interviews as necessary to improve water governance. It is important to note that these requisites are not independent from each other, rather, when combined can generate a more effective governance framework (Table 2). These requisites include: consultation with Aboriginal residents; public ownership of land and resources, public involvement and engagement; funding; an active role from the province, and; access to information and open communication.

Table 2: Requisites for Effective Water Governance

Recommendations for Effectiveness	Times Provided
1. Meaningful Consultation with Aboriginal Residents	14
2. Public Participation & Engagement	9
3. Adequate Funding	6
4. Water Quality Monitoring	5
5. Active Role from the Province	5
6. Public Access to Information	5
Total	44

Meaningful Consultation

One participant alluded to the idea that the Aboriginal consultation process should be left with the communities and should not reside at the Ministry of the Environment. According to this participant, one of the major obstacles to effective water governance is the way in which the current consultation process is carried out. The current process involves many steps that often result in miscommunication and oversight. As this participant explains:

> "The regulators send out these letters and have never been in northern Saskatchewan, they have no idea what's going on up here and this just lights a fire. It's not a proper consultation. First Nations consultation is a hard thing, it resides with the Ministry of Environment and most of the time, we don't even know where this stuff goes - it's like a black hole […] it's just a process that's a waste of time."

Other participants referenced the importance of consultation to better inform local residents of new development activity. Meaningful consultation would seek to engage rather than inform while taking direction, where possible, from local and traditional knowledge.

Public Participation and Engagement

The current lack in public participation was attributed to the complexity of the consultation process and to the public's lack of awareness of the programs that are in place to engage participation. Promoting education on watershed issues was seen as a major requirement for effective water governance. Some participant responses suggested the creation of a stronger educational component within the current water governance framework where residents could find avenues for engagement, ideally grassroots in nature, created through local programs and groups. As one participant noted:

> "There is no engagement process with the local people. It's all coming from Regina. The local people know more about their environment than everyone else. It's a different perspective when you use the land and live in it every day. They need to involve people in decision making, traditional knowledge and what not."

Another recommendation called for stronger mechanisms to engage communities with their environmental interactions. It has been suggested that a heightened sense of public involvement and ownership with local watershed groups would result in greater environmental stewardship. As stated by one participant:

> "It needs to be recognized that it is not only industry that influences water quality and quantity but it is also communities and individual businesses. Lack of education on water issues applies to northerners [residents] as well as outsiders."

Finally, some participants felt that more authority should be given to northern

grassroots stewardship groups and that northerners needed to become politically engaged in water issues by pushing for stronger environmental and watershed protection plans:

> "Some of the stakeholder groups should have to lobby strong and say 'you're leaving the North out'. Water is important in the north and they deserve a watershed protection plan."

Public participation is a cornerstone of the planning process including those planning processes that frame water governance structures. Including a northern voice in northern water governance will be essential to support effective planning and management in the north.

Adequate Funding

Recommendations relating to capacity and funding were mentioned on multiple occasions. One participant suggested that in order to increase water governance in the north, there needs to be an expansion of the current model developed in the south. In this respect, the current southern model would have the opportunity to cover the province as a whole. In order to make the appropriate changes and to engage in northern watershed planning, financial capacity becomes an important issue. As one participant stated:

> "An increase in resources to the agency [Water Security Agency], our agency in terms of long term and guaranteed funding rather than the 'come and go' funding that is on an annual basis, which you can't do much planning with when there is financial uncertainty. There needs to be recognition that a guarantee of central funding should be available to support these long term initiatives and efforts for long term commitment."

Other recommendations included the increase in financial capacity to enable grassroots watershed groups to keep providing results such as reports and community engagement. The importance of recognizing the key roles and functions of the province and providing them with more authority were also suggested as ways in which to improve water governance. One participant explained that financial capacity will need to be dedicated to the north in order to make the appropriate changes, facilitate northern engagement and to enable watershed groups to be recognized as legitimate entities. A final recommendation stated the need for funding to include the monitoring of northern water resources by the province.

Water Quality Monitoring

Lack of water monitoring in the north was a predominant concern of the research participants. As highlighted by a northern resident:

> "The people feel that there is always something contaminating the water […] there are things that have come up like minnows that are dead and floating and such."

Monitoring and sharing of data to the public were seen as imperative to water governance and alleviating public water quality concerns. Lack of monitoring information for northern watersheds was also a concern for participants given their concern over climate uncertainty, lake acidification, declining fish populations and upstream oil sands development. In the words of one participant:

> "Monitoring is another major issue. We all have to work together, or we are not going to protect everything. In the long run quantity will be a concern. There is talk that industry in the long run will go after natural resources."

Water quality and quantity concerns, often driven by perceptions of change, can only be validated through monitoring. Increasingly community-based monitoring, including the local archiving of water quality results, is the preferred approach where local community members engage in water sampling and testing.

Active Role from Province

In conjunction with increased monitoring and consultation, some participants felt that the province needed to take a more active role on northern water management and governance issues. This included creating management plans such as adaptation of the federal fish habitat management policy framework to address the issues in the north in general with regards to pristine habitat.

Some participants felt that not enough provincial attention was spent on northern water issues, such as planning, governance, engagement and monitoring. Watershed planning to date has focused exclusively on the southern portion of the province to the exclusion of the north. Respondents supported a more active role from the province in the north, including support from the province of a northern watershed council. As one provincial government participant explained:

> "Provincially, and as a whole, we seem to be paying attention and we are certainly keeping pace with our counterparts in Alberta, in B.C. and in the NWT; but in the north we are not necessarily at the table dealing with the people that we need to be dealing with—and that's a problem."

Many participants also stated that the province was currently not addressing water governance at all: "We have to get [water governance] started. I don't know why the government doesn't want to have anything [to do] with the north…better start working on it now."

However, some participants stated that the province was producing results and that the current obstacles lie in larger systemic issues of capacity:

> "The Saskatchewan Watershed Authority [now Water Security Agency] does a good job in the raw [water] side of things and they are certainly the best group to do that. They have the knowledge and the scientists and the planners that are all in the raw water management business. From a developer stand point, some of the stuff is not quick enough and as far as water allocation from wells and stuff […] we only have two offices to deal with."

Some participants favour a lead coordinator role to be played by the province. This lead role would help to facilitate better communication and consultation as well as training and financial capacity building to enable community-based monitoring. Rather than dismiss the role of the province, participants voiced an interest in the province playing a more active and engaging role in water governance in the north perhaps resourcing a northern watershed council with broad Aboriginal membership. The Saskatchewan Water Security Agency is the arm of the provincial government best suited to fill this role.

Public Access to Information

One of the main reasons stated for the ineffectiveness of the current water governance framework was the lack of information sharing between all northern actors. Some participants explained that the lack of information sharing between government, industry and residents was detrimental to addressing public concern with industrial development and to advancing proper water governance. One northern participant explained:

> "Communication between all the stakeholders is the biggest thing. As an operating company, we are keen to follow best practices and do the best we can, but we need to understand exactly what the government's concerns are and what the local community's concerns are. Ideally, we would want to see an avenue to communicate to all the stakeholders."

Participants were also concerned with fragmentation and the numerous different agencies which have a role in northern water issues and how this process often impedes information sharing:

> "On the mining side, [water] is [also] regulated by Sask Environment, on the quality side, the Ministry Environment and the SWA on the quantity side. The data all exists within those groups and the more you fragment a group, the more issues surface. The sharing and the protection of information doesn't always happen."

In the absence of information there can be little trust in decision making and in the state of water quality and quantity in the north. This sentiment is echoed in communities where the absence of information often drives fear and uncertainty about local water conditions. Transparency in decision making and ease of access to information concerning water governance is paramount. This not only includes current and future information but also past information previously unavailable to northern communities. Example of this information includes, but is not limited to, the history of water quality, flow levels, contamination events and historical land use activities.

Discussion

In this section we discuss three underlining themes that have emerged from the six requisites identified from this research. Although these themes have been generated from our northern Saskatchewan case study, the lessons learned are broadly applicable for advancing water governance in other northern and more remote regions of Canada.

Communication

First, effective water governance requires communication. Proper communication and public engagement includes effective dialogue between actors and northern participation and ownership over water issues. Communication and public engagement within the context of this research also includes the acknowledgement of Aboriginal Treaty Rights. This remains one of the main water governance concerns for northern Saskatchewan, especially for some northern community members. Concern over Aboriginal Treaty Rights is not unique to northern Saskatchewan and has been pervasive across the country as there has never been a Canadian court ruling that has clearly established or denied Aboriginal rights to water (Laidlaw & Passelac-Ross, 2010).

It has also been argued that increased consultation can generate more effective participation and engagement in environmental governance (Rydin & Pennington, 2000). Participation has been defined as "a process in which individuals take part in decision making in the institutions, programs and environment that affects them" (Heller et al, 1984:339). An increase in participation as a way to generate effective water governance, align with the current literature on social benefits of participation in environmental decision making. As such, stakeholder participation has been argued as a way to increase public trust in decisions (Richards et al, 2004) and as an empowerment tool through the co-generation of knowledge (Wallerstein, 1999). Fairness and equity are also major attributes to stakeholder participation (Richards et al, 2004) which lead to the promotion of social-learning; one of the more pragmatic benefits of participation where stakeholders come together in the development of creative solution (Blackstock et al, 2007). Thus, it can be assumed that an increase in participation through effective dialogue, consultation and engagement is one of the first benchmarks in creating effective water governance in northern Saskatchewan.

Capacity

Effective water governance requires financial capacity to create effective watershed plans and scientific capacity to ensure adequate water quality monitoring. The water resources literature indicates that capacity building is important especially at the

implementation stage of water management plans (Pirie et al., 2004; Ivey et al., 2006). Lack of water monitoring in the north was a predominant concern for research participants, especially when compounded with concerns of acidification in lakes. Increased capacity for monitoring is also important in order to address effective environmental decision making. Although attempts at monitoring have been sporadic in the past, as of 2007 Saskatchewan Environment started initiating regular sampling (Prebble et al, 2009). The north has been receiving more attention in the past year, with the launch of the Boreal Watershed Initiative which plans to "emphasize baseline and historical studies, utilize traditional knowledge and legacy data, and develop tools" (Government of Saskatchewan, 2012). This initiative will attempt to increase monitoring to evaluate future changes in northern watersheds and to ensure environmental protection of the region (Government of Saskatchewan, 2012). This sudden investment in northern watersheds demonstrates that the need for monitoring has been felt throughout the province, not necessarily only by northern stakeholders.

Leadership

Finally, effective water governance requires effective leadership at every institutional level. According to the literature, "effective" water governance requires a proper balance between political, social and economic organizations (Grigg, 2011; Roger & Hall, 2002). It is also stated that there is no single model for effective water governance as this system is seen to be unique to an area's social, economic and cultural particularities (Roger & Hall, 2002). Much of the literature characterizes water management in Canada as a system having poor inter-governmental coordination which often results in a duplication of efforts and inadequate data collection, sharing, monitoring and enforcement (Nowlan & Bakker, 2007; Norman & Bakker, 2009). The literature is consistent with participant responses on the effectiveness of water governance in northern Saskatchewan and issues of fragmentation.

One of the main reasons stated for the ineffectiveness of the current water governance framework was the lack of communication between actors and institutions. According to Tropp (2007), the process of networking and dialogue is critical to address issues of water governance and sustainability. Heikkila & Gerlak (2005) have also noted that other components, such as proper access to information and leadership have also been observed as key requirements to enable a collaborative-based dialogue (Heikkila & Gerlak, 2005). Issues with the lack of information reporting can be seen as a direct symptom of the current over-arching Canadian water governance framework, which as noted by de Loë & Kreutzwiser (2007: 91) is conducting its own "largely independent, experiment in water governance." Participants also stated that the current water governance model is not northern specific. Provincially, water management planning efforts and resources are employed in the more populated southern parts of the province, where watersheds are substantially different both in ecology and in contamination sources. Yet, these efforts often exclude the needs of northern water users. For some participants, these concerns have created a lack of confidence in the province. Cohen & Davidson (2011:63) highlight this type of concern as a result of asymmetric gaps between 'policy-sheds', where "unless all policy is made at a watershed scale (…) no single set of policies will ever wholly encompass the watershed."

A more active role from the province was identified as an important requisite for effective water governance. This role would most appropriately reside with the Saskatchewan Water Security Agency.

Conclusion

In recent years the concept of water governance has taken a prominent position in the water resources literature. There is now general consensus in the literature that problems emerging in water resource management are more often institutional and political than they are scientific and technical. The importance of water governance in northern Canada cannot be overstated in this time of climate uncertainty, accelerated northern resource development, increased awareness of Aboriginal land and water rights as well as increased awareness of the inefficiencies of fragmented water management regimes. Water governance intersects both the institutional and political nexus to interrogate the decision making process necessary for watershed planning and management.

In this paper we set out to identify the requisites for more effective water governance in northern Saskatchewan. The results suggest that, at a minimum, meaningful consultation with Aboriginal residents, public participation and engagement, adequate funding, water quality monitoring, provincial leadership and access to information will provide the necessary foundation. These requisites have not been prioritized in this study, nor are they independent of one another. Opportunities to advance water governance in northern Canada will need to be mindful of these requisites and the broader themes identified in this paper, namely improved communication, financial and technical capacity, and provincial leadership.

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